

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) An optical system for use in an optical pickup for recording information onto a recording medium, said optical system comprising:

a lens element for focusing incident luminous flux at a predetermined position, said lens element having, from a long conjugate distance side, a first surface convex to the long conjugate distance side and a second aspherical surface convex to a side opposite to the long conjugate distance side,

wherein the incident luminous flux passing is laser light and passes through a peripheral part of said first surface, is reflected at a peripheral part of said second surface, is again reflected at a central part of said first surface and is imaged on an optical axis of the lens element as a light spot to optically record information on the recording medium.

2. (Previously Presented) An optical system as claimed in claim 1, wherein said first surface and said second surface are both aspherical.

3. [Canceled]

4. [Canceled]

5. [Canceled]

6. [Canceled]

7. [Canceled]

8. [Canceled]

9. (Currently Amended) An optical system for use in an optical pickup to record information on a recording medium, said optical system comprising:

a lens element for focusing incident luminous flux at a predetermined position, said lens element having, from a long conjugate distance side, a first surface concave to the long conjugate distance side and a second aspherical surface convex to a side opposite to the long conjugate distance side,

wherein the incident luminous flux passing is laser light and passes through a peripheral part of said first surface, is reflected at a peripheral part of said second surface, is again reflected at a central part of said first surface and is imaged on an optical axis of the lens element as a light spot to optically record information on the recording medium.

10. (Previously Presented) An optical system as claimed in claim 9, wherein said first surface and said second surface are both aspherical.

11. [Canceled]

12. [Canceled]

13. (Currently Amended) An optical system for use in an optical pickup to record information on a recording medium, said optical system comprising a lens element having a first convex surface on the long conjugate distance side thereof

with a first reflective coating on a central portion thereof and a light admitting area on said first convex surface at the periphery of said first reflective coating, and a second aspherical convex surface on the opposite side thereof with a second reflective coating on a peripheral portion and a light transmissive region at the central portion thereof, wherein incident ~~luminous flux~~ laser light passing through the light admitting area of said first convex surface is totally reflected on the second reflective coating, is again totally reflected on the first reflective coating and is imaged in the vicinity of the vertex of the second aspherical convex surface as a light spot to optically record information on the recording medium.

14. (Previously Presented) The optical system of claim 13 wherein [at least one] both of said first and second surfaces [has] have an aspherical shape.

15. [Canceled]

16. [Canceled]

17. [Canceled]

18. [Canceled]

19. [Canceled]

20. [Canceled]

21. (Previously Presented) The optical system of claim 25 wherein at least one of said surfaces has an aspherical shape.

22. (Previously Presented) The optical system of claim 21 wherein said first surface has an aspherical shape.

23. (Previously Presented) The optical system of claim 21 wherein said second surface has an aspherical shape.

24. (Previously Presented) The optical system of claim 13 wherein said lens element is made of molded glass.

25. (Currently Amended) An optical system for use in an optical pickup to record information on a recording medium, said optical system comprising a lens element having a first concave surface on the long conjugate distance side thereof with a first reflective coating on a central portion thereof and a light admitting area on said first concave surface at the periphery of said reflective coating, and a second convex surface on the opposite side thereof with a second reflective coating on a peripheral portion thereof and a light transmissive region at the central portion thereof, wherein incident ~~luminous flux~~ laser light passing through the light admitting area of said first concave surface is totally reflected on the second reflective coating, is again totally reflected on the first reflective coating and is imaged in the vicinity of the vertex of the second convex surface as a light spot to optically record information on the recording medium.

26. (Previously Presented) The optical system of claim 25 wherein said lens element is made of molded glass.

27. [Canceled]

28. (Currently Amended) An optical system for use in an optical pickup to record information on a recording medium, said optical system comprising,

a lens element for focusing incident luminous flux, said lens element having, from a long conjugate distance side, a first surface concave to the long conjugate distance side and a second surface convex to a side opposite to the long conjugate distance side,

wherein the luminous flux ~~passing~~ is laser light and passes through a peripheral part of said first surface, is reflected once at a peripheral part of said second surface, is thereafter reflected a second time at a central part of said first surface and is imaged on an optical axis of the lens element upon being reflected said second time as a light spot to optically record information on the recording medium..

29. (Currently Amended) An optical system for use in an optical pickup to record information on a recording medium, said optical system comprising:

a lens element having, from a long conjugate distance side:

a plane surface with a first reflective coating on a central portion thereof and a light admitting area at the periphery of the first reflective coating, and

a surface convex to a side opposite to the long conjugate distance side with a second reflective coating on a peripheral portion thereof and a light transmissive region at the central portion thereof,

wherein incident ~~luminous flux~~ laser light passing through the light admitting area of said plane surface is reflected on the second reflective coating, is again reflected on the first reflective coating and is imaged in the vicinity of the vertex of the convex surface as a light spot to optically record information on the recording medium.

30. [Canceled]

31. [Canceled]

32. [Canceled]

33. [Canceled]

34. [Canceled]

35. (Currently Amended) ~~The~~ An optical system for use in an optical pickup comprising:

a lens element having, from a long conjugate distance side:

a plane surface with a first reflective coating on a central portion thereof and a light admitting area at the periphery of the first reflective coating, and

a surface convex to a side opposite to the long conjugate distance side with a second reflective coating on a peripheral portion thereof and a light transmissive region at the central portion thereof,

wherein incident luminous flux passing through the light admitting area of said plane surface is reflected on the second reflective coating, is again reflected on the first reflective coating and is imaged in the vicinity of the vertex of the convex surface, of claim 29

and wherein a marginal ray of the luminous flux reflected on the first reflective coating of the plane surface is totally reflected at the light transmissive region of the convex surface.

36. (New) The optical system of claim 1 wherein a numerical aperture in a medium of the lens element exceeds 1, and evanescent light is used for optical recording onto the recording medium.

37. (New) The optical system of claim 9 wherein a numerical aperture in a medium of the lens element exceeds 1, and evanescent light is used for optical recording onto the recording medium.

38. (New) The optical system of claim 13 wherein a numerical aperture in a medium of the lens element exceeds 1, and evanescent light is used for optical recording onto the recording medium.

39. (New) The optical system of claim 25 wherein a numerical aperture in a medium of the lens element exceeds 1, and evanescent light is used for optical recording onto the recording medium.

40. (New) The optical system of claim 28 wherein a numerical aperture in a medium of the lens element exceeds 1, and evanescent light is used for optical recording onto the recording medium.

41. (New) An optical system for use in an optical pickup for recording information onto a recording medium, the optical system comprising:

a lens element for focusing incident luminous flux in the form of laser light at a predetermined position, said lens element having, from a long conjugate distance side thereof,

a first surface for receiving the incident luminous flux, and

a second surface opposed to the first surface,

wherein the luminous flux passing through a peripheral part of said first surface is reflected at a peripheral part of said second surface, is again reflected at a central part of said first surface and imaged on an optical axis of the lens element, thereby forming an imaged light spot on the optical axis of the lens element to optically record onto the recording medium.

42. (New) The optical system of claim 41, wherein the imaged light spot used for optical recording onto the recording medium includes evanescent light.

43. (New) The optical system of claim 41, wherein a numerical aperture in a medium of the lens element exceeds 1, and evanescent light is used for optical recording onto the recording medium.

44. (New) The optical system of claim 41, wherein the first surface is convex to the long conjugate distance thereof.

45. (New) The optical system of claim 41, wherein the first surface is concave to the long conjugate distance thereof.

46. (New) An optical system for use in an optical pickup for recording information onto a recording medium by focusing laser light, the optical system comprising, from a long conjugate distance side thereof,

a first surface for receiving the incident laser light, and

a second surface for making the laser light converge, the second surface being opposed to the first surface,

wherein the laser light passing through a peripheral part of said first surface is reflected at said second surface, is again reflected at a central part of said first surface and is imaged at an exit surface on an optical axis of the optical system, thereby forming an imaged light spot to optically record onto the recording medium.

47. (New) The optical system of claim 46, wherein the imaged light spot used for optical recording onto the recording medium includes evanescent light.

48. (New) The optical system of claim 46, wherein a numerical aperture in a medium of the optical system exceeds 1, and evanescent light is used for optical recording onto the recording medium.

49 (New) The optical system of claim 46, wherein the first surface is convex to the long conjugate distance thereof.

50. (New) The optical system of claim 46, wherein the first surface is concave to the long conjugate distance thereof.